

## Sandia Vela Work Recognized

Sandia Corporation's contribution to the Vela satellite program, which provides means for detecting nuclear explosions in space, received recognition recently from the Atomic Energy Commission. President Hornbeck received the following letter from the U. S. Atomic Energy Commission signed by Commissioner James T. Ramey:

"The Vela Satellite Program with its four successful launches, without a failure, each placing two AEC-instrumented nuclear detection satellites into prescribed orbits, is an unprecedented achievement in the field of space research and development effort. On behalf of the Commission, I wish to express my deep appreciation to you, and members of your staff, especially the group under the leadership of Mr. Don B. Shuster, Mr. James H. Scott, Mr. Hubert H. Patterson, Mr. William C. Myre, and Mr. Richard E. Spalding for the great contribution that the Sandia Corporation has made to the success of the Vela Satellite Program. The sound design, high quality performance, and remarkable performance of the optical and electromagnetic pulse detectors and of the space-based data processing electronics for the Atomic Energy Commission's payload clearly demonstrate the technical skill, professional competence and dedicated effort of personnel at your Laboratory. The Atomic Energy Commission is proud of the performance of the Sandia Corporation.

## P. R. Brousse Retires from WE; H. G. Mehlhouse Named to Post

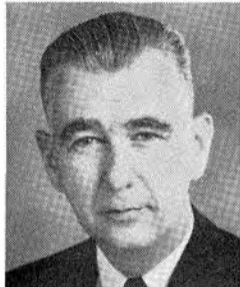
Harvey G. Mehlhouse, Western Electric Company executive vice president, was named last week to fill the position of P. R. Brousse, who will retire as a WE executive vice president Aug. 31. In his new position, Mr. Mehlhouse will be responsible for manufacturing operations and related engineering activities and will be a member of the executive committee.

In related moves, Philip E. Hogin, vice president, manufacturing, was named executive vice president to fill Mr. Mehlhouse's former position. Mr. Hogin will direct corporate staff activities, including finance, purchasing and transportation, personnel and public relations.

Paul Zweier, general manager, Columbus Works, was named as Mr. Hogin's replacement.



Mr. Mehlhouse



Mr. Hogin



Mr. Zweier

Mr. Mehlhouse, who was superintendent at Sandia in 1952-55, began his WE career in 1929 as an engineer at the Hawthorne Works. He worked at Bell Labs, Hawthorne and Sandia before returning to WE as assistant works manager at Kearny in 1955. After a year as works manager at Merrimack Valley, he was elected a vice president in 1957 and executive vice president in 1965. He is a member of the Sandia Corporation board of directors.

Mr. Hogin began his career in 1942 as an assistant engineer at Kearny. After a

(Continued on Page Two)

### 350 Tests Conducted This Year

# Terradynamics Group Pioneers Earth Penetration Field

The 9½-foot-long projectile trailing a nylon cable, telemetry transmitter and deployed parachute streaked earthward from the helicopter to impact in the designated target area on a tree-rimmed Texas field.

The field test was one of hundreds conducted by Terradynamics Division 9327 over the past few years in pioneering soil penetration studies.

Impacting at velocities from 100 to more than 1000 feet per second, the projectiles have burrowed 13 feet into rock and in excess of 100 feet through desert soil into a water table. Other target materials have included ice, gypsite (a type of sandstone), moist clay, water, granite, desert alluvium and welded agglomerate.

Sizes of the projectiles have covered a spectrum from 3 to 18 inches in diameter and from less than 3 to 15 feet in length. At least 15 different nose shapes ranging from flat to needle pointed have been used.

The field of study is so new that there was no word to describe it until Sandia coined the term "terrodynamics." W. N. Caudle, supervisor of Division 9327, notes that terrodynamics can be likened to aerodynamics. However, instead of dealing with the relationship of a vehicle to atmospheric environments, terrodynamics is concerned with the "flows" and resistance of various earth materials to penetrating vehicles.

Because natural earth material formations have not been duplicated in the laboratory, the penetration studies involve field tests in areas where there is a natural



INSTRUMENTED PROJECTILE is secured to underside of helicopter by Horace Lucero (9324).

formation of the desired type of earth material. The division has conducted some 350 tests this year. One recent test called for moist, plastic-like clay such as that found in College Station, Texas.

Purpose of the tests conducted in conjunction with Texas A&M University, was to obtain information on deformations produced in moist clay by the vertical penetration of a projectile. Test data will

# SANDIA LAB NEWS



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SANDIA LABORATORIES

ALBUQUERQUE, NEW MEXICO  
LIVERMORE, CALIFORNIA

OPERATED BY SANDIA CORPORATION FOR  
THE U. S. ATOMIC ENERGY COMMISSION

## Employees Invited to Participate In Diabetes Detection Program

Sandia employees both in Albuquerque and Livermore are being offered an opportunity to undergo yearly diabetes detection tests through Medical Organization 3300.

Starting Aug. 1, notifications will be sent to different groups of employees each month. Participation in this continuous program is entirely voluntary. If the employee would like to be tested, he is asked to fill in a questionnaire and take it to the nearest Company medical station at the earliest convenient time.

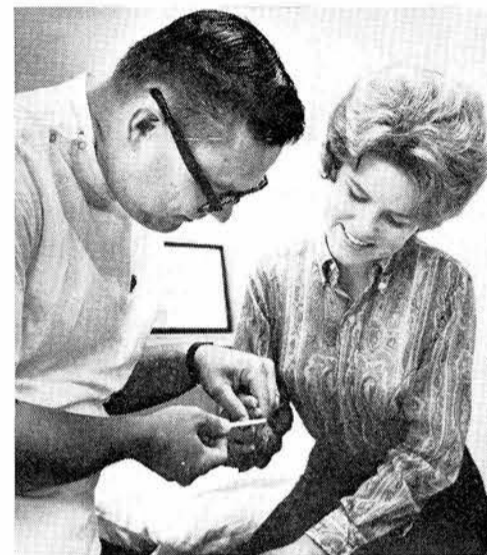
At the medical station the procedure will only take a few minutes. The nurse will draw a small amount of blood from the employee's finger and allow the sample to dry on a special dextrose stick. In about a minute, the nurse can determine the amount of sugar in the blood. Persons having blood sugar levels higher than normal will be referred to Medical Bldg. 831 for a more precise blood-sugar reading.

In 1964 the Medical Organization conducted a diabetes detection program in which 17 previously undetected cases were discovered among the 1000 employees checked. The program was repeated the following year with seven positive and 37 potential cases disclosed through tests on 3000 employees.

It is estimated that there are probably 11,000 undetected cases of diabetes in New Mexico. On a nationwide basis, the disease ranks seventh in causes of death even though the introduction of insulin treatment in the early 1920's greatly lowered the mortality rate of diabetics.

Persons most likely to have the disease are those with a history of diabetes among their blood relatives (the tendency can be inherited), those who are overweight, and persons over 40.

The usual signs of diabetes include increase of thirst, constant hunger, loss of weight, intense itching, slow healing cuts and bruises, changes in vision, and tiring



LAB TECHNICIAN Jim Day (3341) demonstrates to Kathy Sullivan (3341) the new diabetes detection test. A drop of blood from Kathy's finger is placed on a dextrose-treated stick. In a minute, a positive or negative reaction can be noted.

easily. However, these and other symptoms of diabetes may be so vague that a blood-sugar test is the only effective way to detect the disease. Persons who have diabetic symptoms should report for a detection test immediately, not waiting to be notified through the Medical Organization's program.

Early detection of diabetes is not only important for the immediate improvement of health but equally important for the prevention of permanent damage such as impaired vision, premature hardening of the arteries, coronary disease and the complications of infections to which the diabetic is very susceptible.

be used in analyzing the mechanics of earth penetration.

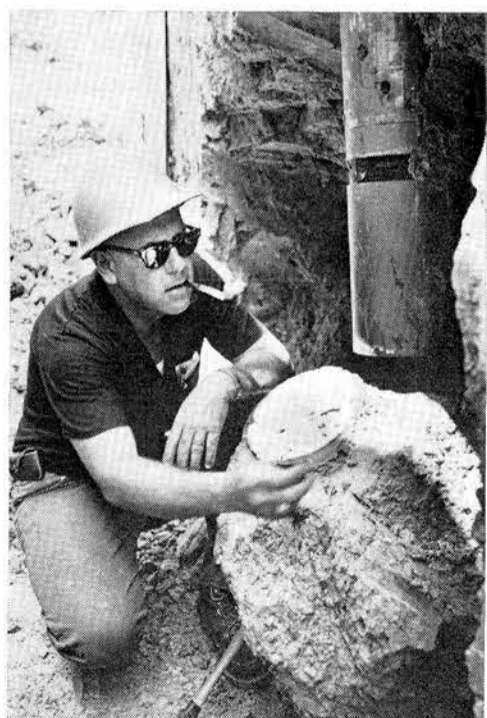
The tests involved dropping two 1000-pound vehicles from a helicopter flying 4000 feet above ground level to obtain a desired 13-foot penetration. Instead of pointed ballistic shapes, flat-nosed vehicles were used to emphasize soil changes caused by penetration.

A radio transmitter, suspended on a 50-foot-long nylon cable that stretched from the vehicle to a four-foot diameter chute, sent deceleration, velocity and other data from the electronically instrumented projectile during penetration. Associated ground equipment received and recorded the transmitted data for analysis.

Both vehicles impacted in the target area and burrowed to the predicted 13-foot depth. Recovery operations required extreme care. A vertical slice was made in the soil along one side of each vehicle. The resulting 16-foot deep trenches were then used as staging areas for photographing and studying soil deformations. "Soil points"—compacted earth material at the tip of the buried projectiles—were carefully cut out, hoisted to the surface and coated with wax to preserve them for laboratory analysis.

Penetration data are useful to various Sandia programs. One example of possible use is in the SNAP (Systems for Nuclear Auxiliary Power) Program. Under this program, Sandia investigates and evaluates safety features of nuclear power systems

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SOIL POINT, compacted earth material caused by projectile's penetration, is examined by John Colp (9327) before it was raised from the excavation and coated with wax to preserve it for laboratory analysis. Projectile's flat nose is shown where it came to rest 13 feet below the surface. Paint from the flat nose adhered to the top of the soil point.

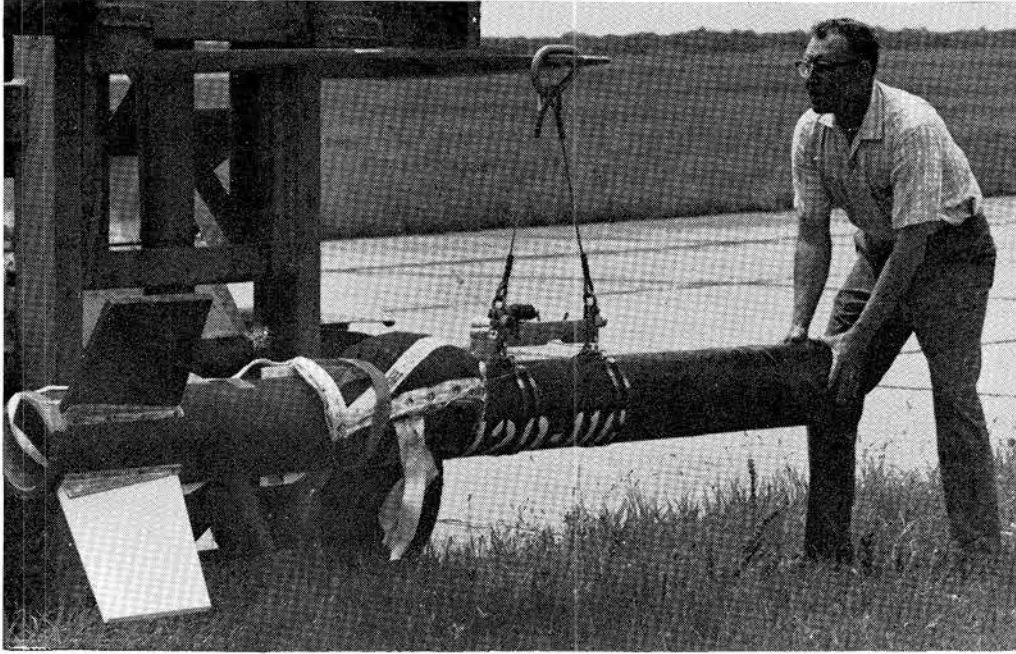
## Editorial Comment

Next Tuesday, Sandia will initiate a continuous program of diabetes detection (see story on Page One.)

The program is voluntary. Some employees may pass up the opportunity with the attitude of "what I don't know won't hurt me." But with diabetes, it's the knowing, the early detection, that is critical to controlling the disease.

With proper care and treatment in its early stages, diabetes may be a nuisance but need not be crippling or fatal.

When you receive your questionnaire and notification for a test (about 600 employees will be contacted each month), we urge you to participate.



FLAT-NOSED PROJECTILE is guided into position near an airport runway by Perry Wilkes (9327) in preparation for attaching it to underside of helicopter. Two of the four fins on the vehicle were removed to prevent possible damage during handling, but were replaced before liftoff. The plywood tail fins are designed to provide stability to projectile during its fall from the aircraft and then shear off during entry into the soil. The package strapped to the rear midsection contains the parachute.

Continued From Page One

## Pioneering New Terradynamics Field

for use in space vehicles. Self-burial of these fuel sources after re-entry into the earth's atmosphere is a potential disposal method.

Little was known about the physical processes involved in earth penetration when Sandia first started the studies on a limited scale in 1960 under the direction of A. Y. Pope (9300). Since then, the Terradynamics Division has amassed what is probably the largest amount of earth penetration data in existence.

By using an empirical penetration equation developed by C. Wayne Young (9327) in terms of total penetration depth extended over complete parameters, the group has been able to calculate penetration depths. Data obtained from 92 percent of the tests match that obtained from Wayne's equation with a deviation of less than 20 percent, which is close—considering the non-homogeneity of solids. Engineering judgment, such as the type of soils, aids in refining the equation that uses 11 different earth materials from soft-saturated soils through sandstone. It also includes a nose performance coefficient.

Wayne is project engineer on the development of low velocity penetrators, large projectiles impacting at 300 feet per second or less. Usually they penetrate less than 15 feet.

Fundamental research on the physical

processes involved in the resistance of earth material to projectile penetration is the concern of John L. Colp. W. J. Patterson concentrates on penetration of natural rock formations and reinforced concrete. Perry R. Wilkes, Jr., develops the test plans, including release conditions and trajectory. He also administers the group's contracts with outside consultants and institutions. E. N. Vilella provides mechanical support for the various tests.

Currently Terradynamics Division has two consultants working on the program. They are Dean Fred Benson, college of engineering, and Dr. Louis J. Thompson, associate professor of civil engineering, Texas A&M University. Providing geological and engineering services are Edward Margason and Dr. Robert L. McNeill of Woodward-Clyde-Sherard and Associates.

Other Sandia organizations providing support for the program are Rocket and Recovery Systems Division 9324, Test Projects Department 7210, DOD Range Operations Division 7223 and Industrial Photographics Division 3465.



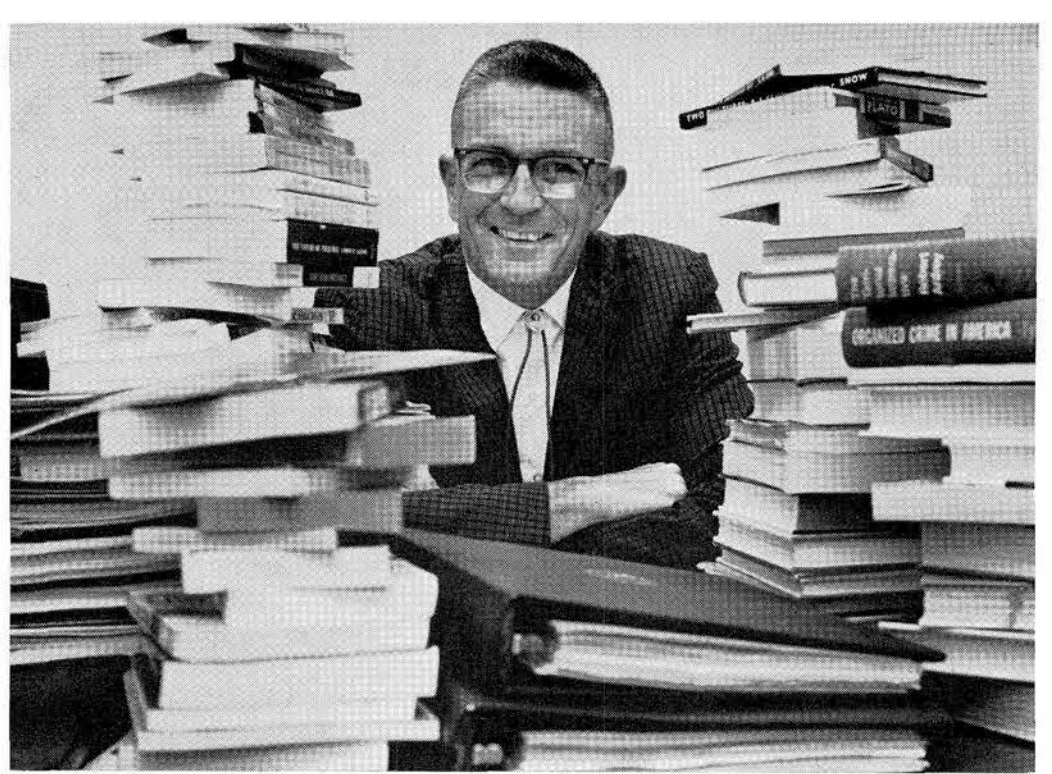
OFFICIALS of Monsanto Company and Monsanto Research Corporation visited Sandia Laboratory recently for technical briefings. From left are R. W. Henderson, vice president 2000; Charles H. Sommer, president of Monsanto Company; L. P. Gise, manager of AEC/ALO; Monte C. Throdahl, vice president of Monsanto Company; and Howard K. Nason, president, Monsanto Research Corporation. Monsanto, headquartered in St. Louis, is a prime contractor of the AEC.

Continued from Page One

## WE Appoints

two-year hitch as a Naval officer, he returned to a succession of manufacturing jobs—plus being a Sloan Fellow at MIT—before being named vice president of staff, manufacturing division, in 1964 and vice president, public relations, in 1965. He assumed his present job in 1966.

Mr. Zweier is Brooklyn-born, joined WE in 1942 as an assistant engineer in the radio division (now defense activities). After engineering assignments in New York, Kearny and North Carolina, he worked on pilot operations at Merrimack Valley, at Hawthorne and at Columbus, where he rose from assistant superintendent, product engineering, to general manager in 1964.



WIDE VARIETY OF SUBJECTS covered by Western Electric's Management Training Program are represented by these books stacked before Robert J. Blount (3120), who recently completed the course.

## Economics to 'Virginia Woolf' Found In Special WE Management Course

The two cartons were heavy — 88 pounds to be exact — and they were full of books and notebooks. The titles covered a wide range of subjects: "The Federalist Papers," "The Affluent Society," "Macbeth," "Who's Afraid of Virginia Woolf?" Really not what one would expect as textbooks for a management training course.

The boxes belong to Robert J. Blount, manager of Employee Benefits and Services Department 3120, who was the first Sandian selected to attend Western Electric Company's Management Training Program, considered one of the most advanced courses in industry. Some 362 WE employees have graduated from the program which includes philosophy, sociology, literature, science and other more obvious subjects appropriate for today's business manager.

"The major surprise," Bob says, "was finding that there was so much coverage on broadly conceived business and social problems, not just those directly related to WE's operations."

Despite geographical differences, within a short time the men discovered similarities in both their business problems and social situations. That was understandable since the men were all about the same age — and, through careful management screening, comprised a "select group of high-potential men."

The attendees, even those whose homes were within commuting distance of lower Manhattan, lived for the 22-week period at the Downtown Athletic Club. It was a 15-minute walk from WE headquarters at 222 Broadway where most training sessions were conducted.

"Our classes were scheduled during normal office hours plus a few night sessions. In addition there were some Saturday classes and we disregarded all holidays which fell during the training period. There were about four hours of reading or specific homework assignments almost every night," Bob recalls.

He found it a lot tougher than he expected to go from a work environment to one of study. "Fortunately, the staff usually forecast what was coming, so it was possible to pace yourself and gauge the

time required to complete certain readings or study problems," he says.

Western Electric vice presidents were frequent luncheon guests.

Bob speaks highly of the quality of consultants and instructors and of the discussions with training leaders which provided a two-way channel for commenting on the program's content.

"The entire class enjoyed Foreign Affairs Week, conducted in New York City by the Foreign Policy Association," the Sandian recalls. "We received a good updating on foreign affairs by people who have been in the field." The keynote speaker was Prof. John G. Stoessinger, who had been teaching political science at Columbia University but now has moved to the UN Headquarters.

A week in Washington, D.C., for a first hand look at government resulted in what Bob calls "a lot of understanding of the problems of bureaucrats."

As to "Who's Afraid of Virginia Woolf?" and "Macbeth," they were among the reading assignments for the 15 sessions of Reading for Leadership, designed to broaden the scope of the participants' interest. Each session a different member led a discussion which usually revealed 14 different viewpoints. "A couple of us cheated a little by seeing the 'Virginia Woolf' movie as well as reading the play," Bob admits, "and it turned out the two were almost identical."

There was also a three-day creativity-problem solving workshop, the same general idea as Sandia's value engineering workshops.

While the trainees from nearby areas went home for the week-end (if the individual didn't feel the interruption would hamper his study), five of the men remained in Manhattan. "We played squash," Bob says, "went for walks in Central Park, saw movies, and generally caught our breath. The most difficult thing was trying to find an eating place open Sunday morning in lower Manhattan."

Meanwhile on the home front, Mrs. Blount and their three children, ages 7, 9 and 11, were getting along as well as possible, but the last month the children became pretty anxious about Dad coming home.

## SANDIA LAB NEWS



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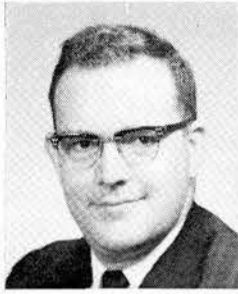
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## Supervisory Appointment



**JAMES N. ROGERS** to supervisor of Numerical Applications Division 8114, effective Aug. 1.

Since joining Livermore Laboratory in April 1961 in the Reliability and Computations Division, Jim has worked in

mathematics organizations where he has been responsible for engineering computations support. He has also been involved with numerical control application and most recently with trajectory and aerodynamics heating problems.

Before coming to Sandia, Jim was employed from 1957-61 by the General Electric Atomic Power Laboratory, both at Vallecito and San Jose, as a mathematical analyst in reactor design.

He received his MS degree in mathematics from the University of Wisconsin in 1957. He earned his AB degree in mathematics from Butler University, Indianapolis, in 1955.

Jim served two years, 1951-53, with the U. S. Army in Korea. He is a member of the Society for Industrial and Applied Mathematics and the Association for Computing Machinery.

## Welcome . . . Newcomers

June 29 - July 17

California	
Michael Lee Anman, Davis	8158
Curtis J. Batts, Menlo Park	8252
Loren C. Bryan, San Carlos	8252
John P. Chan, Berkeley	8141
Patricia E. Clark, Fremont	8117
Everitt Davis, Pleasanton	8223
Thomas H. Pinkerton, Davis	5510
*Mary C. Sites, Pleasanton	8232
Don M. Smith, Gridley	8254
Pennsylvania	
Joseph F. Lienhard, Jim Thorpe	8252
Wayne R. Will, Philadelphia	8252
Returned From Leave	
Timothy J. Cody, Castro Valley	8232

\*Denotes rehire

## Sympathy

To Jim McMinn (8241) for the death of his sister in Chicago, Ill., July 7.

To Joyce Willford (8252) for the death of her father in Sebastopol, July 10.

## Three Sandia Papers Presented in Canada

Several Sandians participated in the International Conference on Military Applications of Blast Simulators held at Suffield Experimental Station in Ralston, Alberta, Canada, July 18-21.

At the general meeting, W. T. Ashhurst (8146) presented "Blast Testing of Aerodynamics Structures Using Explosive Driven Shock Tubes." The paper was co-authored with R. H. Schultz (8124), H. M. Stoller (5636) and A. N. Blackwell (8110).

During the workshop session on the final day of the conference, F. H. Mathews (7343) presented "Characteristics of Several Concentrated Charge Explosive Driven Shock Tubes" and L. W. Bickle (7343) presented "Calibration of the Sandia Corporation 6-x 200-foot Explosive Driven Shock Tube."

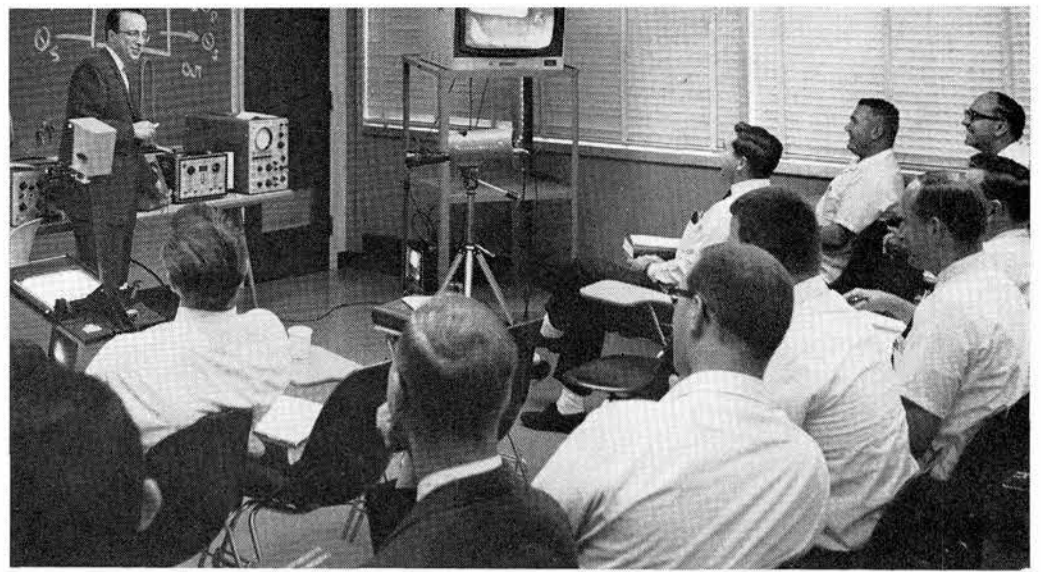
## Sports Report

Organization 8100, with an average of 74.2 strokes, won the eighth annual 8100 vs. 8200 golf tournament to regain the Sandia Golf Challenge Trophy. Organization 8200 finished with an average of 77.5 strokes. Last year 8200 took the trophy from 8100 for the first time since the yearly event began in 1960.

The straight handicap tourney was played at the new Las Positas Golf Course in Livermore July 15.

The first place 8200 individual trophy went to Bill Ryan (8212) with a net low score of 65. He also took low gross honors with a score of 77. John Barnhouse (8226) finished second with a net low score of 70. Al Skinrood (8158) and Ralph Morrison (8151) tied for the first place 8100 individual trophy with net low scores of 70. A play-off will be held at the next tournament to determine the trophy winner.

The Monday night Men's Thunderbird Bowling League is now being formed for the fall season. Employees who are interested in bowling on a team may sign up or obtain further information by contacting Don Werner (8113), ext. 2456, or Bob Strout (8113), ext. 2265.



PROFESSOR PETER K. STEIN of Arizona State University's College of Engineering Sciences presented a course in Measurement Engineering to about 35 SCLL engineers at LRL recently. For the past six summers Professor Stein has conducted a "road show" throughout the country, bringing this ASU developed course from the campus to industry. Use of closed circuit TV was made possible through the LRL Education Office.

# LIVERMORE NEWS

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JULY 28, 1967

## Take Note

Dr. Max W. Biggs, consultant physician for SCLL and director of medical services at LRL, has been certified by the American Board of Preventive Medicine as a medical specialist in occupational medicine. The Board passes on the qualifications of members of the medical profession for certification in four specialty areas—occupational, preventive, and aviation medicine and public health.

Tickets are on sale for a new series of foreign and American films. Sponsored by the Lawrence Radiation Laboratory Recreation Association Film Society for LRL or Sandia employees and members of their immediate families, the series began July 13.

The 12 films will be shown on alternate Thursdays at 8 p.m. in the LRL Auditorium, Bldg. 111. Short subjects will be shown with each movie. All foreign language films have English sub-titles.

Tickets (at \$3 per person for the entire series) and additional information are

available from LRL Personnel Services, Pat Jordan, ext. 7052.

L. H. Bakken of Applied Mechanics Division II 8147, is the author of an article which appeared in the June 1967 issue of the LINCOLN LAW REVIEW published by Lincoln University, San Francisco. The article is entitled "The Reverse Land Valuation Problem: Rezoning from Industrial to Residential in Alameda County."

Roy J. Wilcox (8252-2) has been elected to a two-year term as one of four state trustees for the Fraternal Order of Eagles. He has held all elective offices in the Livermore Eagle lodge, and is presently serving his second term as a local trustee.

## Congratulations

Mr. and Mrs. Keith Christian (8146), a son, Lars Kenneth, July 2.

Mr. and Mrs. John O'Neil (8212), a daughter, Megan Elizabeth, July 4.

Mr. and Mrs. Al Reichmuth (8252), a son, Anthony Louis, July 12.

## At Livermore Laboratory

# Summer Hires Discuss Benefits of Sandia Work

Several faculty members and graduate students are working at Livermore Laboratory this summer. The SANDIA LAB NEWS interviewed five of these summer hires about their plans for this fall and if their experiences at Sandia were proving to be valuable.



**James W. Lucke**

A student and teaching assistant at the University of California at Berkeley, holds a Bachelor's degree in mechanical engineering from UC/Berkeley, working toward a Master's degree in mechanical engineering. Assigned to Electrical Subsystems Division 8155.

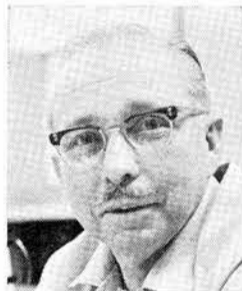
"I'll be finishing up my Master's degree in mechanical engineering at Cal and possibly going on for my PhD. I think working here this summer will be a real help. I'm in a predominantly electrical engineering group, and it's given me a little different viewpoint — also some lab experience which I need and enjoy. In mechanical engineering I've taken an interest in experimental mechanics which is, in ways, quite similar to what they're doing in this group."



**William A. Phillips**

A student at the University of Colorado working toward a second Master's degree, in applied mathematics; holds a Master's degree from Tuskegee Institute in mechanical engineering; taught at Tuskegee Institute in mechanical engineering for four years. Assigned to Applied Mechanics Division I, 8146.

"I'll be returning to the University of Colorado to get my Master's in applied math. This is my second summer at Sandia. From last year's experience and what I've been working on so far this summer. It's easier to relate theory to practical application — I'm in heat transfer application. As a student, I always have the problem of too little money, so summer work helps monetarily."



**William J. Spragge**

An electronics teacher and chairman for the technical arts area at Livermore High School. Assigned to Electronic Fabrication Section 8223-3.

"I'll return to teaching in the fall. My Sandia summer employment in the printed circuit lab and other fabrication areas very definitely is a great experience and opportunity to see some of the practical industrial operations that go on. It will be my responsibility to translate these into educational processes so that there can be some carry-over from the work that I've done here into the technical education at the local high school."



**Frank S. Felicione**

A student at the University of California at Berkeley with a Master's degree in mechanical engineering, studying for a PhD in mechanical engineering. Assigned to Project Engineering Division 8158.

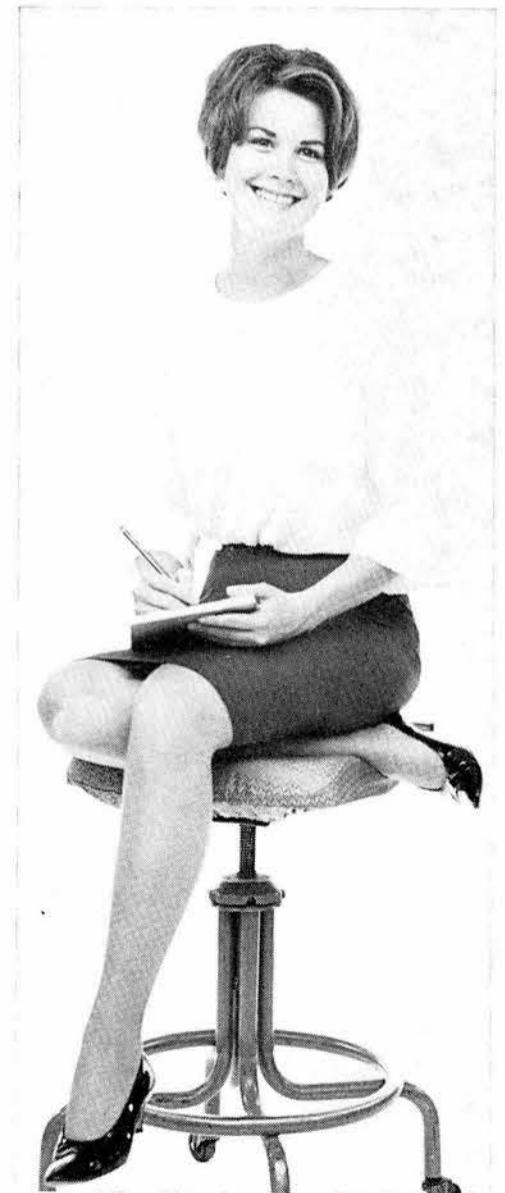
"I'm returning to Cal/Berkeley in the fall to work on my PhD in mechanical engineering. My work here at Sandia involves the thing I like to do — thermo analysis. This is the type of work I'd enjoy doing in the future, and I feel the experience here will help me — give me a know-how approach to a practical problem as opposed to a book-type problem."



**Richard F. Koehler**

A June graduate of Massachusetts Institute of Technology with a Bachelor's degree in electrical engineering. Assigned to Telemetry Development Division 8119.

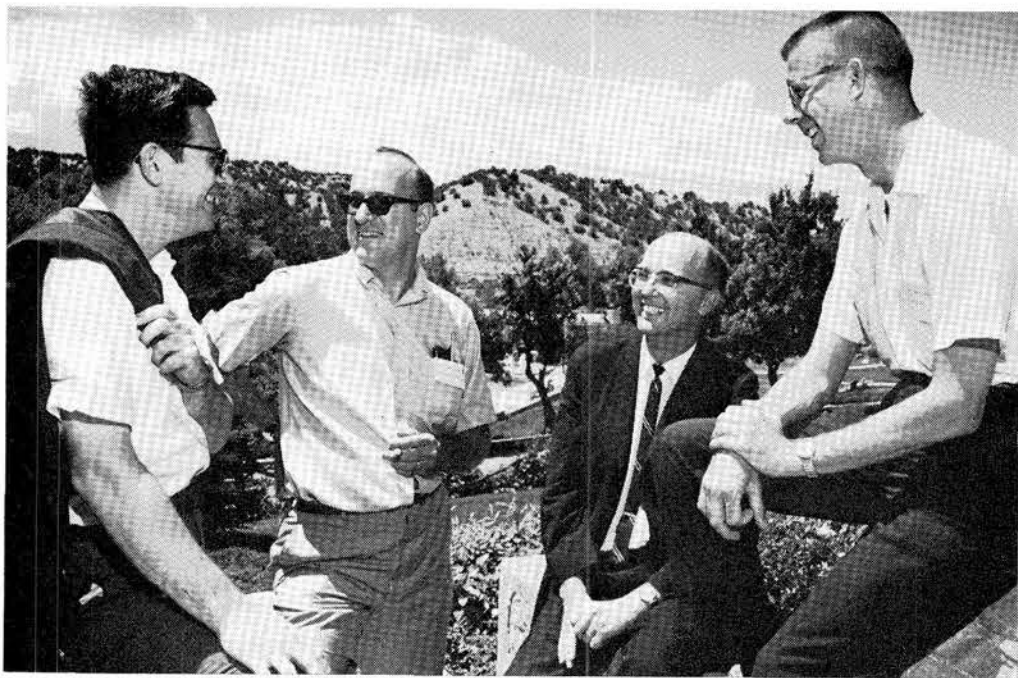
"I'm going to Stanford this fall to work on my Master's degree in electrical engineering. I had planned to stay at MIT next year, but during the Christmas vacation, while at home in Alamo, I went over to Stanford just for a look—and applied for graduate school. I decided to see what a different school was like. I think my summer work at Sandia will help me since it's the first practical application of what I have learned so far. At school we studied theory and what should work. Here you see if it really does."



**Beth A. Williams (8232)**

## Take a Memo, Please

When on the highway, always expect the unexpected. Drive defensively!



INFORMAL DISCUSSIONS as well as formally-presented technical papers were features of the Symposium on Excitons, Electrons and Holes in Organic Crystals, held recently in Santa Fe. Enjoying the sunshine during a session break are (l to r) A. R. McGhie of Drexel Institute, A. C. Switendick (5213), Chairman R. G. Kepler (5213), and R. E. Merrifield of E. I. duPont de Nemours & Co.

## Certified Professional Secretary Rating Earned by Esther Coffman

Esther Coffman, secretary to Senior Buyer F. A. Bentz (4373), was informed last week she had become a Certified Professional Secretary.

She was the sixth Sandia woman (currently on roll) to attain this rating which is one of the highest honors available in the secretarial profession.

To qualify for the certification, the secretary must successfully complete all six parts of the CPS examination. The subjects include personal adjustment and human relations, business law, business administration, secretarial accounting, secretarial procedures, and secretarial skills.

This year 311 secretaries throughout the country were certified.

Esther joined Sandia six years ago as a service clerk in Division 4374. A year later she became secretary to Mr. Bentz. "I enjoy studying and have taken the noon-hour courses every year," she says. "I think they're great!" She has taken technical writing, English review, economics, algebra I and II, and shorthand refresher. She plans to enroll in one of the computer courses this fall.

Several years ago Esther read about the CPS program (in the SANDIA LAB NEWS) and added courses in business administration and accounting at the University of New Mexico to her personal training program.

"I find there are a lot of benefits from studying which show up in your own work and attitudes," she says.

Esther had two years of college, graduated from a business school, and had secretarial experience, but all this was before she married and had four children. When the oldest reached high school, Esther rejoined the business world.

The other Certified Professional Secretaries at Sandia Laboratory are Josephine Hanna (4000), Jean Langston (5100), Betty Pickel (4300), Winifred Sandusky (6000), and Helen Walsh (5140).

### Supervisory Appointment



GEORGE J. JANSER to supervisor of the newly created Test Section 1315-1, effective June 16.

After joining Sandia in September 1954, George worked on developing and evaluating piezoelectric devices. From January 1956 to July 1959, he designed and developed contact fuzing systems. The following four years he was with a component development group. Since July 1963, he has been concerned with test site operations, including site design and developing techniques for instrumenting test devices.

Before coming to Albuquerque, George was with Ingersoll Milling Machine Company in Rockford, Ill., for 12 years. He started working there as a maintenance electrician and progressed to electrical design engineer of automated control circuitry.

He served as an electronics technician with the U. S. Navy, mainly at a submarine repair base in the Philippine Islands, from 1944 to 1946.

George received his BS degree in electrical engineering from the University of New Mexico. He is a member of Eta Kappa Nu and Sigma Tau.



CERTIFIED PROFESSIONAL SECRETARY rating has been attained by Esther Coffman, secretary to Senior Buyer Fred Bentz (4373).

## Arts and Crafts Fair Attracts Many Artists

When the sixth annual New Mexico Arts and Crafts Fair opens in Old Town Plaza Aug. 4, several Sandians will be displaying products of their leisure-time interest in art.

The three-day fair includes examples of the diverse Indian, Spanish and contemporary cultures found in the Southwest. Some 140 booths will be located within the plaza area and special displays will be in galleries on adjacent streets.

Richard Strome (3463) and his wife, Elaine, will have booths 27 and 28. Elaine will display her watercolors while Dick will have both watercolors and landscapes created in acrylics.

Gay L. Romesberg (2213) and her husband, Laverne (a former Sandian), will have booths 50 and 51. Gay does watercolors and drawings, while her husband specializes in handmade frames and wood-working.

Booths 59 and 60 will be occupied by G. Roy Mullin (2212) and his mother, Mrs. Ruby Mullin. Roy has wrought-iron sculpture of such subjects as roadrunners, cats, and a praying mantis. Mrs. Mullin paints in oils and watercolors.

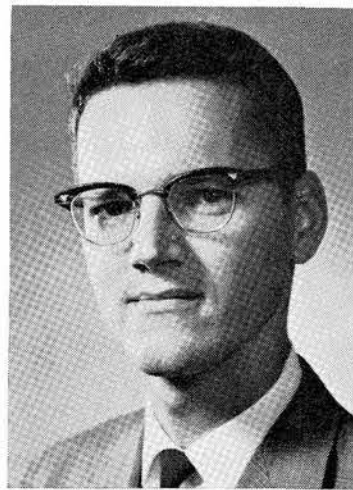
The Romero Street Gallery will feature booths in its patio. Displaying watercolors of Southwestern scenes there will be Tillie K. Pierce and Tudor A. Marks (both 3463). Tudor will also show a few oil portraits of Indians.

In recent years more than 150,000 persons have attended this popular fair. There is no admission charge.

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JULY 28, 1967

SANDIA LAB NEWS



## R. R. Eaton Receives PhD from Okla. State

Roger R. Eaton of Re-Entry Studies Division 9326 received a PhD degree in mechanical engineering during recent commencement exercises at Oklahoma State University.

His dissertation was entitled "A Numerical Solution for the Flow Field of a Supersonic Cone-Cylinder Entering and Leaving a Blast Sphere Diametrically."

Both his BS and MS degrees in mechanical engineering were from Kansas State University.

Mr. Eaton came to work at Sandia Laboratory in 1962 and transferred to his present organization the following year. He was on educational leave of absence from September 1964-October 1966 to complete residence requirements for his doctorate.

### Attends International Meeting

## Fred Eichert Returns with Vivid Impressions of Russian Life

A lost suitcase containing a well-planned wardrobe for a visit to London and Moscow inconvenienced Fred F. Eichert (2210) during his recent trip to attend international standardization meetings, but the loss was insignificant compared to the value of the meetings and personal experiences.

Fred was one of four U. S. delegates to the sixth meeting of the Technical Committee 10—Drawings, International Standards Organization (ISO) in Moscow last month. Prior to the Moscow meeting, the U. S. delegates met with their British counterparts in London to review and establish points of difference on the proposed ISO standards and the two U. S. papers to be discussed at the international meeting.

The two Sandia-prepared papers Fred read at the international meeting were the first U. S. papers presented at a Technical Committee 10 meeting. (The first meeting was held in 1953.) Some 45 representatives of 18 nations at the meeting will submit their comments on the papers to the TC 10 secretariat in Zurich, Switzerland, by December. Papers favorably received by a majority of the countries will be incorporated into the international standards. ISO standards are issued in their final form as recommendations. The individual countries still retain their own national standards for domestic use, modifying them as necessary to conform to ISO recommendations.

The four-day meeting was held at the State Lomonosov University in Lenin Hills. Fred reports that it took quite a while to present the two papers — "The Three Plane Concept" by R. O. Dell (2223) and "The Projected Tolerance Zone Concept" by P. A. Nicovich (2212). Fred's English presentations were translated first to Russian then to French. He would read a sentence or two then pause for the two translations. Comments from the floor underwent the same series of translations.

Two afternoon sessions were devoted to sightseeing excursions. The first was to Red Square to see Lenin's tomb where the ISO group was confronted with a line of people, three abreast, several blocks long, moving about a foot a second. Fortunately the group's interpreter-guide broke into the line thus avoiding a five-hour wait. After Lenin's tomb one of the visitors inquired about an unmarked grave by the outside wall of the Kremlin. "Stalin," the guide replied.

The second excursion was to the Exhibitions on Economic Achievement, a large complex of buildings similar to a small world's fair. It is designed to show the Russian people what is taking place in the country and to provide information on various subjects.

## Atomic Collision Papers Presented in Leningrad

Two Sandia papers were given during the Fifth International Conference on Physics of Electronic and Atomic Collisions, held July 17-23 in Leningrad, USSR.

J. M. Peek presented "Equivalence of the Sudden Approximation to the High Energy Limit of the First Born Approximation" and T. A. Green presented "First Born Approximation Cross Sections for the Breakup of High-Energy  $H_2^+$  Ions Upon Collision with He" (Mr. Peek was co-author).

Both men are assigned to Atomic and Molecular Research Division 5121 and are engaged in research concerned mainly with the theory of scattering of atomic and molecular systems. Although their interests are in the same general area, their emphasis differs — Mr. Green is interested in low energies while Mr. Peek is working with high energies and elastics.

The conference was organized by the Ioffe Physico Technical Institute and was sponsored by the Academy of Science of the USSR. Previous conferences have been held in New York City, London, Quebec, and Boulder, Colo. The meetings were held in the Palace of Culture with both Russian and English listed as official languages (and facilities for simultaneous translation).

Activities planned for conference participants included visits to the Hermitage Museum of Art and the Russian Museum (which contains the best collections of Russian art), and brief tours through the suburbs of Leningrad and the parks and fountains at Petrodvorets.

Among the exhibits was a 35-foot political map of the world on glass. By pressing a series of buttons red bloc countries were illuminated in red, Western Europe, the U. S., etc., in white; recently nationalized countries in green; and flags were illuminated to show locations of active communist party groups.

Another exhibit used a map of Russia to trace industrialization during each of the five-year plans. It was noted that productivity has increased 66 times since 1917, the start of the revolution. Nearby was an educational display on standardization. Fred says that the Russians are currently quite concerned with quality. Under a system adopted this year, a product which meets necessary standards is identified with a "quality" trademark ("СССР" enclosed in a pentagon). The visitors noticed that some of the nearby displayed articles, such as bicycles, carried no quality symbol. The guide commented that these products had not yet been certified.

The relatively slow pace and brusqueness of the masses of people in the city and the poor quality of available merchandise made a lasting impression on Fred. The people, he says, seemed determined, but their mannerisms and dress needed considerable improvement. They seemed unemotional and seldom smiled or talked to anyone. In contrast, the technical people at the conference were well dressed, enthusiastic and energetic.

"Service was so poor in Moscow," Fred says, "it usually took two or three hours to eat an evening meal in the hotel dining room. Most of the time was spent waiting to be served. Waiters, waitresses and clerks didn't seem to care about pleasing the customer or selling any merchandise. They merely work for the state. In contrast, the ISO conferences were well planned and organized. Under the circumstances they did a splendid job."

Mrs. Eichert had an opportunity to chat with some Russian women during the special program arranged for the wives of ISO delegates. She reported to Fred that Russian factory women are allowed just three days for maternity leave. One of the Russian women commented that what she finds most difficult is waiting to prepare meals for her family at home. In her case, which apparently is not unusual, eight families share one cookstove; however, new "luxury" apartments have communal kitchens to accommodate four families.

While they have received no news about the lost suitcase, Fred and Mrs. Eichert are delighted to be back home cherishing the memories of the trip, appreciating the friendliness of Albuquerqueans and enjoying the quality of American products.

# Service Awards

## 20 Years



V. M. Brewster  
9228



C. W. Campbell  
4000



W. O. McCord, Jr.  
4632

## 15 Years



W. A. Adams  
1543



Catherine Banks  
8213



Charles Bray  
4212



E. G. Connelly  
2554



C. E. Drew  
2565



J. E. Duffy  
4362



M. D. Elifritz  
1344



G. C. Hartman  
2111



R. E. Henderson  
1524



C. C. Hudson  
5590



J. J. Johnson  
4611



J. A. Larson  
1631



D. V. Lotz  
2114



J. M. Mata  
7322



G. J. Miller  
8114



C. Z. Mitchell  
4511



L. R. Myers  
8128



R. V. Phillips  
4131



F. C. Rivera  
2551



R. A. Rogers  
4573



E. L. Roper  
2133



Raymond Saiz  
4614



C. C. Savage  
2431



B. E. Shea  
9423



J. P. Shurter  
4383



J. A. Stark  
9325



Severn Starzynski  
1525



Alexander Thom  
7113



Dorothy Troy  
3421

## IEEE Appoints Two Sandians to Radiation Effects Committee

Two Sandians have been named to positions on the Radiation Effects Committee of the Institute of Electrical and Electronics Engineers.

A. W. Snyder, manager of Applied Radiation Science Department 5220, was named chairman of the group and will automatically serve on the administrative committee of the IEEE Group on Nuclear Science. Both terms are for three years.

The new secretary for the Radiation Effects Committee is F. N. Coppage of Physics and Technology Division 1413 (formerly of 5220).

The appointments were made during the recent 1967 IEEE Annual Conference on Nuclear Space Radiation Effects, held in Columbus, Ohio, and are considered recognition of Sandia Laboratory's contributions in this field.

## Speakers

C. A. Olson (7221), "Meteorology as a Career," Explorer Scout Group, July 6, Albuquerque.

G. E. Tucker, Jr. (3313), "Health Physics," South Valley Optimist Club, July 12, Albuquerque.

J. G. Marsh (3414), "The Classification Function at Sandia Laboratory," Third National Seminar of the National Classification Management Society, July 19-21, Washington, D. C.

J. W. Reed (7111), "Sonic Booms," Heights Lions Club, July 20, Albuquerque.

N. C. Anderholm (5623), "Cryogenics," Rio Grande Kiwanis Club, July 27, Albuquerque.

R. T. Dillon (5590), "The New Civil Air Patrol Program," Albuquerque Host Lions Club, July 11, Albuquerque.

Albert Goodman (5623), "Some Things That the Future May Bring," Sandia Optimist Club, July 27, Albuquerque.

## Events Calendar

July 28—Santa Fe Opera performance of "Cardillac"; July 29, "La Boheme"; Aug. 2 and 4, "Boulevard Solitude" (American premiere); Aug. 5, "The Barber of Seville"; Aug. 9, "Carmen."

July 28-Aug. 6—"Luv" and Aug. 9-20, "The Subject Was Roses," Santa Fe Theatre Company, Greer Garson Theatre.

July 29—Cave Springs Trail in the Cowles region (caves, wild flowers). N. M. Mountain Club, leader Ed Clark, tel. 296-4541.

July 30—Hike for children up to seven years of age (parents invited, too). N. M. Mountain Club, leader Peter Harris, tel. 268-3062.

July 31—UNM "Lecture Under the Stars," English writer and educator Laurence Lerner on "English Poetry since 1945." UNM Administration Bldg.

Aug. 2—Indian dances, Santo Domingo and Jemez Pueblos.

Aug. 4-6—New Mexico Arts and Crafts Fair, Old Town Plaza.

Aug. 4—Reservations due for YWCA-sponsored trips Aug. 12 to Gallup Indian Ceremonial and Sept. 2-4 to Monument Valley. Non-members invited. For information, tel. 247-8841.

Aug. 10-13—Inter-Tribal Indian Ceremonial, Gallup.

Aug. 10-13, 17-20—Tennessee Williams' "The Glass Menagerie," Old Town Studio, 1208 Rio Grande NW. For reservations, tel. 242-4602.

## Welcome . . . Newcomers

July 10-21

Albuquerque	
Manuel Archuleta, Jr.	2212
Robert L. Crozier	4253
Alice F. Lucero	3154
David A. Minson	2213
Frank C. Padilla	3415
Delia Quintana	3154
Wayne L. Sly	2213
Edward L. Smith	4233
Joseph C. Smith	3415
James B. Trentham, Jr.	4231
Opal D. Walker	3126
Iowa	
*James A. Hunter, Coralville	9322
Kentucky	
Dennis B. Breuner, Louisville	7222
Michigan	
Dale E. Berg, East Lansing	9322
Minnesota	
David N. Harstad, Minneapolis	2422
New York	
William J. Andrzejewski, Buffalo	1121
Richard C. Beckmann, Troy	2421
Pennsylvania	
Richard R. Biancone, Reading	2213
Leland Dale Byers, Vandergrift	2211
Alfred R. Hoffert, Mohnton	2212
Robert A. Holloway, Tamqua	2211
Robert J. Roginski, Avoca	2212
Wisconsin	
Ronald E. Jones, Madison	9422

\*Denotes rehired

## 10 Years

July 28 - Aug. 10

Justice Bassett 2110, W. G. Weinbecker 4252, S. E. Whittet 7323, F. G. Sanchez, Jr., 9426, J. A. Hood 1433, E. H. Cox 3242, L. L. Stephenson 1133, A. C. Wilken 2423, I. R. Griego 4121.  
J. R. Woodworth 1122, D. R. Adolphson 1131, Martin Rechner 2213, Jewel T. Wheelis 2547, J. B. Sanchez 4212, C. D. Salazar 4254, R. R. Richardson 8243.  
Dixie E. Ketcham 9411, J. A. Schatz 5256, D. R. Metheny, Sr., 4574, J. W. Scheerer 2223, and William Jackson 4253.

## SHOPPING CENTER • SHOPPING CENTER • SHOPPING CENTER • SHOPPING CENTER • SHOPPING CENTER

**CLASSIFIED ADVERTISING**  
Deadline: Friday noon prior to week of publication unless changed by holiday.  
A maximum of 125 ads will be accepted for each issue.

**RULES**

1. Limit: 20 words
2. One ad per issue per person
3. Must be submitted in writing
4. Use home telephone numbers
5. For Sandia Corporation and AEC employees only
6. No commercial ads, please
7. Include name and organization
8. Housing listed here for rent or sale is available for occupancy without regard to race, creed, color, or national origin.

**FOR SALE**  
**REAL ESTATE**

**ELEPHANT BUTTE:** 38' trailer home, leased lot at Hot Springs Landing, 10'x20' canopy, electricity, septic tank, water available, lot graded-graveled. Sherwood, 299-6053.

**FOOTHILLS ESTATES:** 3-bdr., near schools & base, hw/floors, walled, AC, \$12,250 total, low down. Meier, 298-4698.

3-BDR., den, laundry rm., redecorated, recarpeted, below appraisal, \$12,900, refinance minimum down or assume 4 1/2% loan, 1123 Elizabeth NE, Rufsvold, 268-5970.

**CORRALES:** 1 1/2 acre tract, fenced, barn, 6" irrigation well, permanent pasture, lg. cottonwoods, \$9000 cash. Shurter, 898-0771.

2.3 ACRE (190x150) in South Valley, 2 blks east of Foothill, between Arenal & Blake. Benton, 877-2473.

**BELOW FHA appraisal, 3-bdr., den, 2 baths, DR., dbl. garage, pitched, fp, carpeted, disposal, dishwasher, AC, landscaped, sprinklers, walled, extras. Hoagland, 299-7097.**

**TWO HOUSES:** 9604 and 9609 Morrow NE, 3-bdr., 1 1/4 bath, newly carpeted. McGuckin, 298-8091.

3-BDR., 1 1/4 baths, AC, drapes, carpeting throughout, garage, walled back, fenced front, landscaped, \$500 down, no qualifying, \$12,950. Hale, 298-1545.

**TWO ACRES** in Bosque Farms, will consider late model pickup in trade for my equity. Gay, 1-636-2781.

3 OR 4-BDR., FR, garage, covered patio, carpeting, AC, 1600 sq. ft., \$300 down, \$91/mo., 224 Gen. Marshall NE, Johnson, 298-8514.

3-BDR., den, 1 1/4 baths, Vista Larga, near Univ., schools, shopping, glassed patio, trailer access, landscaped, 1608 Princeton NE, Harvey, 256-2666.

**NEAR Los Altos Grant, immediate occupancy, below FHA appraisal, 1016 Field, Micolek, 299-1696.**

**MOUNTAIN LOTS:** one acre, \$1500, two acres, \$2500; large house, 4 bdr. w/five acres, \$37,500. Harrington, 282-3188.

1/2 ACRE, North 2nd St., 10120 block. Leyba, 898-3873 after 6.

3-BDR., den, fp, DR, laun.-sewing rm., beam ceilings, carpets, drapes, dbl. garage, walled patio, 1900 sq. ft. 1/2 acre, 23 Garden Pk. Cir. NW. Slater, 255-7505.

**CARS & TRUCKS**

'59 FORD pickup, 1/2-ton, 4-spd., wide bed, V8, \$550. Aubuchon, 299-8680 after 5:30.

'64 IMPALA HT, original owner, air, PB, PS, less than NADA, must sell, \$1550. Thorp, 268-5336.

'62 DODGE DART, V8 wagon, AT, PS, air, recent major tune-up, \$800, \$190 under book. Lucero, 298-3656.

'66 MERCURY Montclair HT, factory air, power equipped, Reverb stereo radio, \$2600. McMullen, 877-1935 after 5:30.

'66 VALIANT 100, 4-dr., slant six engine, AT, 6600 miles, \$1575. Gebert, 256-6253 after 5:30.

'64 RENAULT DAUPHINE, 4-spd., best offer over \$600. Randle, Placitas.

'59 BORGWARD sports coupe, 58,000 miles. Ulibarri, 864-3274, 619 Goebel Ave., Belen.

'63 CORVAIR 500, 2-dr., std. shift, \$500. Bont-rager, 298-6391 or 282-3427.

'66 BARRACUDA, 4-spd. trans., HD suspension, new tires, formula F, tachometer, \$2400. Vath, 299-1448.

'50 OLDS 4-dr., \$125. Konkel, 299-5108.

'55 RAMBLER WAGON, new rings, \$200. Mitchell, 256-7679.

'56 CADILLAC, power and air, \$275 — 17" Silver-ton TV, \$15; both for \$280. Gragg, 298-0267.

'40 MERCURY 4-dr., make offer. Bureta, 256-1833.

'62 COMET station wagon, R&H, AC, AT, vinyl upholstery, overhead rack, below Blue Book, \$690. Lemmon, 255-2028.

'66 DODGE DART GT, conv., 4-spd., 273 V8, 2-dr., \$500 mil., \$200 plus payments. Carter, 296-2019.

'63 IMPALA 4-dr. sedan, fully equipped, new premium tires, \$1075. Wilkins, 268-5971 after 5:30.

'65 EL CAMINO, red w/white cover, low mileage, R&H, \$1875; '61 Impala 2-dr. HT, low mileage, FS, PB, R&H, \$650. Brown, 344-9675.

'65 MALIBU S.S., dark blue, AC, tinted glass, bucket seats, R&H, carpets, seat belts, vinyl interior, new tires and battery, 25,400 miles, below book, \$1895. Cotter, 299-2296.

'58 VW sedan, body is a wreck, chassis and rebuilt engine suitable for dune buggy, \$150. Norris, 242-2159.

'58 MERCURY Montclair. R&H; '53 Chrysler Windsor six w/heater, both 4-dr. sedans. Magee, 256-1358.

'65 TRIUMPH TR4, blue, Michelin tires, disc wheels, R&H, black top-tonneau, extra white tonneau, \$1475. Manlidt, 268-7601.

MGA, racing tires, wide wheels, roll bar, racing engine, balanced, ported, special camshaft, ok for street, make offer. Hudson, 265-1674.

'52 CHEVY, \$150. Krebs, 296-2710.

'61 RAMBLER station wagon, PS, PB, AT. Long, 256-1683

'59 FORD Fairlane 2-dr. HT, R&H, PS, AT, \$225 or best offer. Sullivan, 268-5130.

**MISCELLANEOUS**

GAS STOVE, 4 top burners, oven, broiler, storage space, \$50. Dempsey, 255-9386 after 5:30.

PUREBRED English Springer Spaniel puppy, male, AKC registered, liver and white color, has permanent immunization shots. Barth, 345-0172.

VW transistor ignition systems and carburetors, choice \$5 ea. Banks, 255-2544.

TEN cartons and two wardrobes, used once by Bekins, for moving or storage or books and clothes. Miller, 282-3293 after 6.

9'x10' RUG and pad, \$15; radio record player, \$10; ping pong table, \$7; 8'x20' swimming pool, \$8; slide, \$8. McFall, 298-1552.

TAP SHOES: girl's size 2N w/Super-Tone taps, \$4; size 3M — \$2; size 10 Bluebird uniform. Smith, 298-0769.

'62 CHEROKEE 160, 1290TT, 240 SMOH, Narco VHT-3, Piper auto-NAV, ROT BCN, full panel, always hangered, \$6890. Wilson, 298-8955.

ARCTIC CIRCLE, 2-spd. fan, side mount, 3200 c.f., \$30; girl's 24" Schwinn bicycle, \$25; violin, new strings, w/bow & case, \$35; electric mower, 18" Toro, \$25. Starks, 344-6032.

2-PIECE sectional & club chair, needs upholstery, \$25; inside panel door, \$5. McCammon, 255-6125.

STENO-GRAPH machine w/tripod, \$75; men's bowling shoes, left handed Brunswick Crown Imperial, size 10, 3 mos. old, \$5. Tichenor, 298-0192 or 255-6125.

HONDA Trail 55 & extras, \$145. Aaron, 299-3163 weekdays only.

KEYSTONE 8mm movie camera w/3 turret lens & light meter, \$25; 6-volt battery charger, \$5. Hart, 299-8832.

15' HART-SWIFT fiberglass boat w/70hp Mercury motor & trailer included, make offer. Downs, 296-4710.

16.7 FT. Starcraft & trailer w/90hp motor, top and curtains, Cooper, 299-6936 after 6 or weekends.

APPALOOSA MARE and filly, \$600; Quarter horse, 2-yr.-old, \$150; utility trailer, 14x5x5, 4-wheel, \$200. Haskell, 865-7900.

FREEZER, \$60 or offer; trombone, violins, full & 3/4 size; Eico FM tuner; stereo pre-amp, amplifier, speakers. Copeland, 344-1133.

GROVES bow, 34-lb., 66", left hand, 2-piece target, deluxe w/custom case, \$50. Townsend, 265-7463.

POWER MOWER, \$10; hand mower, \$5; bathinette, \$7; bassinet, \$4; training seat, \$4; electric sterilizer and bottles, \$5. Eberhart, 268-6943.

CAR TOP CARRIER, enclosed, weather-proof, zipper closure, 48x36x15, holds 6 suitcases, \$22.50. Morgan, 299-2850.

'67 YAMAHA 60cc motorcycle, 2500 miles, extra including helmet & face shield, \$275 complete. Brewer, 298-6018.

OLDS student trumpet, new case, \$45. Olson, 898-0585.

CADET GIRL SCOUT uniform, size 12, dry cleaned; tie, hat, cockade, blouse, skirt, GSA patch, \$5.50. Harling, 243-3314.

ROTH 3/4 size violin and case, Caspari pegs, all accessories, 1 yr. old, \$100. Smith, 256-0375.

4-TRACK STEREO TAPE, Dean Martin "Dream with Dean," never opened, cost \$7.95, sell for \$4. Bowen, 255-8195.

LAWN MOWER, hand push type, \$10; deluxe electric range, dbl. oven, timers, auto. burners, other gadgetry, \$200. Cover, 268-0921.

40 HP Seaking electric outboard, two fuel tanks, all accessories; 10" DeWalt radial arm saw, custom bench, accessories. Earhart, 256-6654.

SEAR'S rotary power mower, 3 hp, 20", w/easy-spin starter & grass catcher. Esterly, 256-9251.

PIANO, upright, Cable Nelson, \$150. Alden, 255-4827.

HORSE: 9 yr. old mare, gentle, excellent for use in mountains and hunting, \$175; show Quarter mare, \$800. Bassett, 898-1840.

.22 RIFLE, single shot w/4-power scope and cleaning kit; pinball game, make offer. Reed, 299-1684.

PEDIGREED Dachshunds, two males, two mos. old, AKC registered; baby crib; stroller. Truskowski, 299-3804.

5 HOUSEBROKEN KITTENS, may be returned if not entirely satisfactory. Wheelock, 242-8244.

POWER MOWER, Moto 18" reel, power cut model, Maltby, 265-1312.

STEREO amplifier; Heathkit 56 watts, Garrard changer w/case; both for \$40, will sell separately, Anastasio, 299-7012 after 6.

WOODEN FLAYPEN and pad, \$7; 7" Split-leaf Philodendron, \$25. Negus, 299-9232.

GOLDEN WALNUT bookcase headboard bed, foam mattress, box spring; royal blue reversible and white quilted bedspreads. Devor, 298-9743.

SPRINGFIELD RIFLE, 1903, A3 .30-06, Lyman sights, refinished stock, \$45. Erickson, 299-6824.

'67 HONDAS, low mileage, 1-305, 1-160, 2-Trail 90's, Prices \$700, \$600, \$200, \$225 respectively, lots of extras. King, 268-5681.

TRUNDLE BEDS and bedding; washer and dryer; 5x7 oval braided rug; floor lamp, push mower; 10" tricycle. Johnson, 256-3473.

COLDSPOT combination refrigerator-freezer, approx. 15 cu. ft., \$150 or best offer. Houston, 299-4118 after 5.

AIR CONDITIONERS, refrib., window type; Welbilt Alaskan, 16,500 BTU, \$110; Coldspot, 8500 BTU, 3/4HP, \$40. Gallagher, 265-0210.

1/4 HP, 115V AC motor, \$5; folding type ironing board, \$3. Cashion, 242-3345.

SPRING FRAME for patio lounge chair on wheels; old flat top trunk; 16" TV w/stand, needs work; battery operated tape recorder. Wenz, 299-5488.

WOODEN lifting frame for small camper w/1500-lb. hand winch, \$45; two-wheel trailer, \$20; Brington, 255-6164.

HEATH DX-60, VFO, D104 mike, phone patch, \$75 or best offer. Miller, 265-8241.

WINCHESTER .30-30, \$60 or trade for .30-30 lever action w/side ejection. Kerley, 299-0281.

HOTPOINT automatic washer, reworked, \$35; baby crib, \$12. Lochtefeld, 296-1326.

BENDIX Sapphire I radio for VW, push button, all-transistor, needs tuner, make offer. Swartz, 898-3086.

STOVE; refrigerator; TV; Early American couch; wheelbarrow; wall tent; washer that needs some repair, moving, must sell. Wilson, 298-0049.

DELUXE GE refrigerator, \$40. Emery, 299-1675.

FREE kittens, 7 wks. old, housebroken. Sanchez, 298-3130.

STEREO phonograph, Silvertone deluxe w/2 gram tonearm, 30 watt amp., 6 spkrs., weighted turntable, \$175 new, asking \$75. VanPraag, 299-5728.

**FOR RENT**

COTTAGE, modern, furnished, well insulated, Sandia Park, water and propane paid, carpet, suitable for two, \$45/mo., available July 28. McMillin, 282-3226.

LARGE 2-bdr., paneled den, fp, 1 1/4 baths, garage, walled yard, near Base, \$100/mo. West, 299-6695.

4521 B Douglas MacArthur NE, 2-bdr., unfurnished apartment, carpets, drapes, built-in range and oven, refrigerator. Daniel, 268-8335.

**WANTED**

GO CART frame and wheels, or complete w/motor. Berlier, 299-3054, RFD No. 1, Box 312, Belen.

CAR POOL or pay for ride from vicinity of Eubank and Candelaria. Brown, 296-5772.

USED BICYCLE, girl's 26" in good condition. Rudolph, 344-5868.

PINT CANNING JARS, Houston, 299-0319.

HEAVY DUTY portable power plane, minimum cut 3"x1/8". Platt, 255-1973 weekday evenings.

TRAILER HITCH, equalizer type. Shafer, 898-0132.

DOG CLIPPERS. Roth, 877-4997.

BOAT trailer and camper trailer or truck mount camper; will trade city lot. Pena, 898-0197.

1/4 or 1/3 HP electric motor, suitable for drill press. Laskar, 299-1024.

6.5x55 CALIBER Swede Mauser in very good condition. Stephenson, 299-5914.

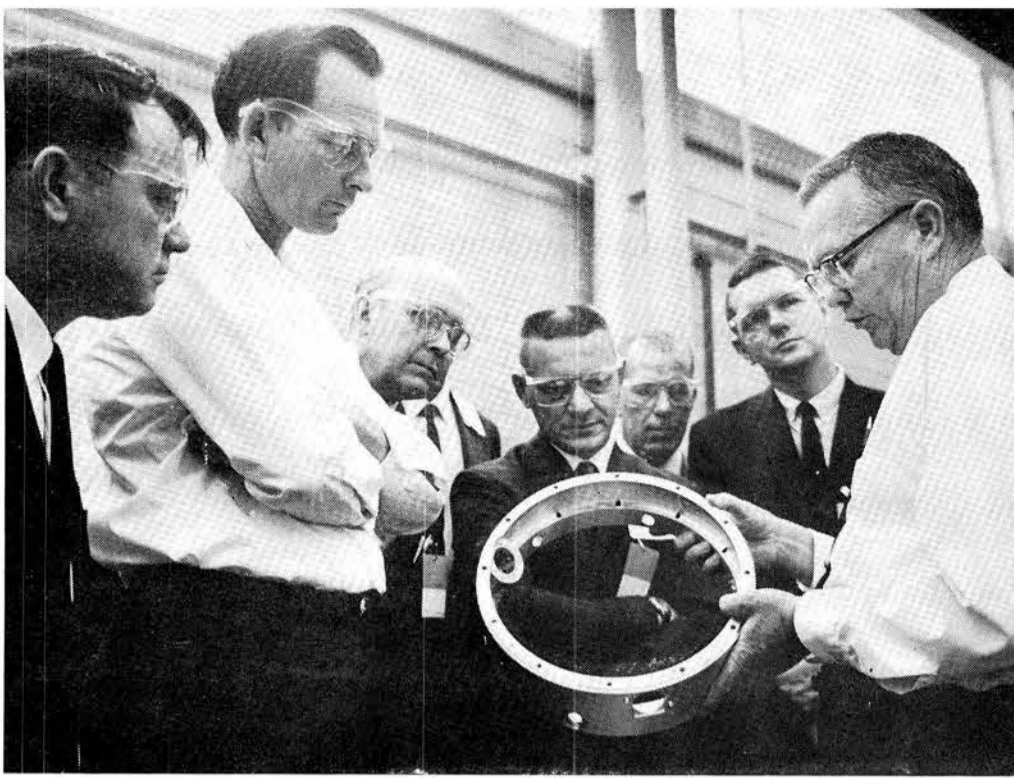
OUT-GROWN Barbie & Ted dolls, wardrobes and accessories. Roberts, 265-3901.

BICYCLE, girl's 24" or 26". Coleman, 299-2377.

**LOST AND FOUND**

LOST—Pearl birthstone ring w/2 diamonds, safety glasses w/brown frames, sunglasses w/chrome frames, prescription sunglasses w/black frames, pocket knife, wallet, sunglasses w/dark frames. LOST AND FOUND, tel. 264-2757, Bldg. 610.

FOUND—Scar, G.M. car key, key case w/small sum of money. LOST AND FOUND, tel. 264-2757, Bldg. 610.



REPRESENTATIVES OF LOCAL FIRMS doing business with Sandia visited the Laboratory last week as part of a continuing program to improve communications. Some of the 65 visitors are shown here viewing a ring machined on the numerically controlled omnimil machine. William R. Parker (right) of Numerically Controlled Machine Tool Operation 4251-2 explains the operation. The program was sponsored by Purchasing and Traffic and the Development Shops organizations.

## Take Note

Duane Arlowe (7335) tied for first place in the 1967 INSTRUMENTATION TECHNOLOGY Award which honored the outstanding technical paper published by the Instrumentation Society of America's journal during the year. Duane was co-author with Richard C. Dove, head of the Mechanical Engineering Department, UNM, of the paper, "Signal Conditioning Sensor Outputs" published in the April 1967 issue.

The award will be presented Sept. 12 in Chicago during the 22nd annual ISA conference. Duane will present "On-Board Signal Conditioning for Piezoelectric Accelerometers" during the meeting.

NEW MEXICO magazine has again recognized the writing ability of Karl Zimmerman (2134) and his lifelong interest in drums. His article "Drummer for de Vargas" appears in the August issue.

The article tells about an African drummer who came to New Mexico with General de Vargas in 1692 and remained at the Santa Fe garrison as the official drummer, town crier and herald.

Karl's previous contribution to the magazine was "Drums Along the Rio Grande," which appeared in February 1965. It traced the history of drums from prehistoric days to the present.

Dave Klein (AEC) took low gross honors with a 147 total in two rounds in the recent Sandia Employees Golf Association championship golf tournament. It was played July 8-9 on the University South Course.

Vic Sirwinski (2444) captured the low net award with a 36-hole total of 139.

Seventy-two Sandia golfers participated in the tourney.

## Bring Guests to Sanado Club 'New Members' Party

All Sanado Club women are invited to attend the annual membership party Tuesday, Aug. 8, at 1:30 p.m. in the Coronado Club ballroom. Mrs. C. R. Pritchett, Sanado Club president, urges all members to attend the free punch party and bring guests who are interested in joining.

Sanado Club has 11 interest groups pursuing individual activities during the year. Membership is open in all the groups—art, arte de cocina, bowling, bridge, golf, horseback riding, choral, skiing, tennis and others. In addition, special sessions in charm, paper flower making and sewing are held.

The general monthly meetings are scheduled the second Tuesday of each month and are planned for variety as well as interest. In the months ahead, style shows, musical entertainment and internationally known speakers will be featured at the meetings.

"My Fair Lady" will be the theme for the Aug. 8 punch party with each interest group having an individual table where prospective members will have an opportunity to become acquainted with both the members and activities of the group. Door prizes will be given away.

Mrs. K. C. Goettsche, membership chairman, may be contacted at 298-0902 for additional information.

Reuben B. Barwick (4112) recently led a session on procurement, distribution and warehousing of funds at a workshop seminar of Business Forms Management Association in Los Angeles. About 65 forms design and processing analysts, form managers and purchasing agents attended.

Dr. Walter J. Fahey, a former Sandia summer employee, was named dean of Ohio University's College of Engineering and Technology this month. Dean Fahey was a temporary employee in the Applied Physics Research Division at the Laboratory the summer of 1960. At that time, he was on the teaching staff at California Institute of Technology. He joined Ohio University as assistant professor of electrical engineering in 1963 and was appointed associate professor two years later. He was made chairman of the department in 1966.

Need a little something extra to read in your spare time? The technical library has some 300 unclassified documents—mainly technical reports—to give away. Some are unwanted duplicates, others are on subjects in which the interest is too limited to warrant cataloging the documents.

The documents are shelved under the stairwell in the hallway between Rm. 10 and Rm. 100 (the vault area) in Bldg. 804. The sign above the shelves states "Please help yourself."

The library also has surplus technical journals. These have already been routed throughout the laboratory and are not needed for filing purposes. These are located on shelves just inside Rm. 5. Here again, please help yourself.

## Coronado Club Annual Meeting Set Aug. 7; Will Elect Six New Directors

Annual meeting of the membership of the Coronado Club and election of new Board members will be held in the Club ballroom at 8 p.m. Monday, Aug. 7.

Nominees for the six open directorships are J. V. Durant (AEC), G. O. Moe (5542), R. W. Mottern (7322), D. M. Olson (1510), O. B. Tjeltweed (8159) and W. G. Weinbecker (4252).

Additional nominations will be accepted from the floor at the meeting. Refreshments will be served.

### August Moon Ball

One of the highlights of the Coronado Club August calendar of events will be the semi-formal August Moon Ball Saturday, Aug. 12. Social hour will feature a wine taste with a variety of vintages. Prime rib of beef will be served for dinner. Dancing to Don Lesman's orchestra will start at 9 p.m. Cost to members is \$3.25, guests \$3.75. Tickets must be picked up at the Club office by 9 a.m. Friday, Aug. 11.

### Social Hours

Tonight, the chuckwagon beef and chicken buffet will be spread. The Rhythm Masters will play for dancing. The buffet costs \$1.75 for adults, \$1.50 for children.

On Friday, Aug. 4, the popular Polish food buffet will be featured. Elaine Harris will play the polkas while Pat Reich and piano will entertain in the main lounge.

Mexican food will be spread for the Friday, Aug. 11, social hour buffet. Don Lesman will be on the bandstand. Cost to adults is \$1.50, kids \$1.25. Pat Reich will be in the main lounge.

### Bridge

The duplicate bridge group will meet Monday, July 31, at 7 p.m. ACF bridge meets Wednesday, Aug. 2, at 7 p.m. Ladies bridge meets Thursday, Aug. 3, at 1:15 p.m.

### Noon Hour Music

Sparkling background music during the lunch hours at the Coronado Club is being provided "live" these days by Taylor Collins of Don Sheets Music Co. The organ music has proved popular with the diners.

### Swim Team Wins

The Coronado Club swim team swept the recent AAU-sanctioned Albuquerque Youth Development Swimming Meet held at Rio Grande pool. The Coronado kids compiled 525 points, winning by a wide margin over the second place Socorro team which scored 427. The Menaul Tank Tigers ranked third with 275; Heights YMCA fourth with 243. The Sandia ANAF team scored 117, Los Alamos 106, and Alamo-gordo 70.

Top swimmers for Coronado were Becky Altherr, Greg Boyles and Denise Flinger.



LINDA JOHNSON (3126) models a new style during a recent fashion show.



FASHION COORDINATOR Sandi Reger (left), a former Miss New Mexico, discusses style show fashions with model Dorothy Jordan (3126). Another show set Aug. 14.

## Sandia Safety Signals

### Use Rubber Mat In Shower

Bath tubs and shower stalls are slippery. Use suction-type bath mats or non-slip adhesive strips for solid footing. Install wall-mounted grab bars or hand rails to prevent slipping and falling against the shower door or tub enclosure.

### Daydreaming — Inattention

How far does your car travel in 5 seconds at a speed of 40 to 50 miles per hour? About the length of a football field! What if you closed your eyes and let go of the wheel for that long? When driving, there's little sensation of speed, but, we can't afford to look away.

### Be Sure It's The Door

Many persons have been injured by walking through the fixed glass panel next to a sliding glass door. To prevent a glass panel from being mistaken for an open door, use decals or pressure tape, or place a fairly tall (about three feet) potted plant or planter in front of the panel.



SANDIA'S NEW EXHIBIT in the Albuquerque Sunport catches the eye of Trish Metcalfe, Trans-Texas Airways hostess. The display, designed by R. H. McHarney (3463-3), is a representation of art work created by Technical Art Division. Industrial Photographics Division 3465 and Community Relations Division 3433 assisted on the project.